



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,212	03/06/2001	Jeffrey K. Lange	1819/100121	4984

7590 11/25/2003

Gunnar G. Leinberg
NIXON PEABODY LLP
Clinton Square
P.O. Box 31051
Rochester, NY 14603

EXAMINER

LEWIS, MICHAEL A

ART UNIT PAPER NUMBER

2655

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

TS

Office Action Summary

Application No.

09/800,212

Applicant(s)

LANGE ET AL.

Examiner

Lewis A Michael

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,6,8,9,10,14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Alshawi (U.S. Patent 581,666).

Regarding claims 1 and 9, Alshawi discloses an integrated method and apparatus for providing real-time subtitles [captioning] in an AV signal. The disclosure includes the automatic conversion of an audio [including speech] signal in the AV signal to text [caption] data and associating the audio and text [caption] data at a time that corresponds to the video signal. Alshawi describes in Fig 1., a video-based communications device (5,8). The device provides segmentation of an AV signal (16) and the further processing of the audio [speech] portion of the signal to provide continuous speech-to-subtitles [speech-to-text] translation (19,21,22) that has the ability to overlay and display text subtitles onto AV signal in real-time [captioning](26).

Regarding claims 2 and 10, Alshawi discloses a method and apparatus that captures an AV signal and further provides the audio [speech] portion of the signal for conversion to text. Alshawi describes a videophone receiver that has an input signal that comprises a camera that represents the visual component of the communication and a microphone that represents the audio component of the signal that have been encoded. (Col 2, 33 – 40). In addition, Alshawi describes an audio/video decoder that accepts an AV input and separates the signal into two entities, video signal and audio signal (Col 2, 51 – 55).

Regarding claims 6 and 14, Alshawi discloses a display that shows at least the video and text [caption] data. Alshawi describes simultaneously displaying the sending party's video overlaid with real-time subtitles [caption] that translates the sender's speech (Col 3, 26 – 29).

Regarding claims 8 and 15, Alshawi discloses a method and apparatus for translating speech and caption into a second language. Alshawi describes an embodiment where the textual signal is translated into a target language that is then overlaid onto the video signal as real-time subtitles [caption] (Col 3, 46).

Art Unit: 2655

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 3 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alshawi (U.S. Patent 5815196) in view of Bozdagi et al. (U.S. Patent 6647535).

Regarding claims 3 and 11, Alshawi discloses an integrated method and apparatus for providing real-time subtitles [captioning] in an AV signal. The disclosure includes the automatic conversion of an audio [including speech] signal in the AV signal to text [caption] data and associating the audio and text [caption] data at a time that corresponds to the video signal. Alshawi describes in Fig 1., a video-based communications device (5,8). The device provides

segmentation of an AV signal (16) and the further processing of the audio [speech] portion of the signal to provide continuous speech-to-subtitles [speech-to-text] translation (19,21,22) that has the ability to overlay and display text subtitles onto AV signal in real-time [captioning](26).

Alshawhi does not show a method of converting the audio portion of the signal to text data that checks whether the amount of caption data is greater than a threshold amount or an expiration time before the process of association occurs. Bozdagi et al. show a system and method to enable real-time and near real-time storyboarding on the world wide web. Bozagi et al. teach the use of processing a multimedia document which summarizes the original video by placing representative static images and text into a web document for viewing (Col 2, 5). In addition, the device can control the number of representative images transferred to be displayed by the use of a threshold (Col5, Line45-55). Also, time is used to check the change in intensity between representative images (Col 6, 7). This gives the advantage of greater flexibility in viewing multimedia and reduces on the overall demand for bandwidth.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify Alshawhi by the use of parameters such as caption amount and time threshold as taught by Bozagi et al. that show the benefits of the

association of text and images for multimedia documents which may include AV signals.

6. Claims 4, 5, 7, 12, 13, 17, 18, 20, 21, 22, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alshawi (U.S. Patent 5815196) in view of Kazeroonian et al. (International Application Number: PCT/US99/03028).

Regarding claim 4 and 12, Alshawi discloses an integrated method and apparatus for providing real-time subtitles [captioning] in an AV signal. The disclosure includes the automatic conversion of an audio [including speech] signal in the AV signal to text [caption] data and associating the audio and text [caption] data at a time that corresponds to the video signal. Alshawi describes in Fig 1., a video-based communications device (5,8). The device provides segmentation of an AV signal (16) and the further processing of the audio [speech] portion of the signal to provide continuous speech-to-subtitles [speech-to-text] translation (19,21,22) that has the ability to overlay and display text subtitles onto AV signal in real-time [captioning](26).

Alshawi does not show the synchronizing of the text [caption] data with one or more cues in the AV signal. However, Kazeroonian et al. teach a real-time process for synchronizing of textual data with an AV signal. Kazeroonian et al.

Art Unit: 2655

describe acquiring and indexing [addition of cues] discrete scenes within the AV signal. For each scene, the textual information related to a particular scene can be determined using a speech recognizer [speech-to-text processor] on the audio portion of the signal [and which is executed on a computer with a stored recordable medium (Page 13, Line 33). In highly dynamic real time video this indexing feature is important in synchronizing the AV signal to the shown textual [caption] data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Alshawi with the addition of cues/indexing to the AV signal to help synchronize text [caption] and AV signal data as taught by Kazeroonian in order to improve on the real time captioning system for AV signals.

Regarding claim 5 and 13, Alshawi discloses an integrated method and apparatus for providing real-time subtitles [captioning] in an AV signal. The disclosure includes the automatic conversion of an audio [including speech] signal in the AV signal to text [caption] data and associating the audio and text [caption] data at a time that corresponds to the video signal. Alshawi describes in Fig 1., a video-based communications device (5,8). The device provides segmentation of an AV signal (16) and the further processing of the audio

[speech] portion of the signal to provide continuous speech-to-subtitles [speech-to-text] translation (19,21,22) that has the ability to overlay and display text subtitles onto AV signal in real-time [captioning](26).

Alshawhi does not show the embedding [encoding] of the text [caption] data within the AV signal. Instead, a subtitle generator (24, Fig. 1) is used to overlay text data onto the AV signal. However, Kazeroonian et al. teach a real-time process for embedding of text into an audio-video signal. Kazeroonian et al. describe acquiring and indexing discrete scenes within the AV signal. For each scene, the textual information related to a particular scene can be determined using a speech recognizer [speech-to-text processor] on the audio portion of the signal (Page 13, Line 33). The AV data for each scene is stored in a database [executed on a computer with a stored recordable medium] where textual information can be associated with indexed AV frames. This data can be later accessed/presented in an embedded format where users can view the AV signal with the associated text [caption] data. (Page 13, Line 12)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Alshawhi by embedding [associating] text data with AV signal data using a database as taught by Kazeroonian et al. in order to improve on the real time captioning system for AV signals.

Regarding claim 7, 17 and 23, Alshawi discloses an integrated method and apparatus for providing real-time subtitles [captioning] in an AV signal. The disclosure includes the automatic conversion of an audio [including speech] signal in the AV signal to text [caption] data and associating the audio and text [caption] data at a time that corresponds to the video signal. Alshawi describes in Fig 1., a video-based communications device (5,8). The device provides segmentation of an AV signal (16) and the further processing of the audio [speech] portion of the signal to provide continuous speech-to-subtitles [speech-to-text] translation (19,21,22) that has the ability to overlay and display text subtitles onto AV signal in real-time [captioning](26).

Alshawi does not show the ability to store the video and associated text [caption] data on a recordable medium. However, Kazeroonian et al. teach a real-time process for storing of audio-video data with the associated text. Kazeroonian et al. describe acquiring and indexing discrete scenes within the AV signal. For each scene, the textual information related to a particular scene can be determined using a speech recognizer [speech-to-text processor] on the audio portion of the signal (Page 13, Line 33). The AV data for each scene is stored in a database stored on a media server where textual information can be associated with indexed AV frames.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Alshawi by the use of a database stored on a recordable medium as taught by Kazeroonian et al. in order to improve on the capability of a captioning system for AV signals.

Regarding claims 18, the modified Alshawi (see rejection for claim 7) discloses a method and apparatus that captures an AV signal and further provides the audio [speech] portion of the signal for conversion to text. Alshawi also describes a videophone receiver that has an input signal that comprises a camera that represents the visual component of the communication and a microphone that represents the audio component of the signal that have been encoded. (Col 2, 33 – 40). In addition, Alshawi describes an audio/video decoder that accepts an AV input and separates the signal into two entities, video signal and audio signal (Col 2, 51 – 55).

Regarding claims 20, the modified Alshawi (see rejection to claim 17) discloses the use of a closed captioning system using a computer recordable stored medium. The modified Alshawi (see rejection to claim 4) also shows the obviousness of using cues in the AV signal as a means of synchronizing text data with the AV signal.

Art Unit: 2655

Regarding claims 21, the modified Alshawi (see rejection to claim 17) discloses the use of a closed captioning system using a computer recordable stored medium. The modified Alshawi (See rejection to claim 5) also shows the obviousness of embedding text data with the AV signal.

Regarding claim 22, the modified Alshawi discloses (see rejection for claim 17) a display that shows at least the video and caption data. Alshawi also describes simultaneously displaying the sending party's video overlaid with real-time subtitles [caption] that translates the sender's speech (Col 3, 26 – 29).

Regarding claims 24, the modified Alshawi discloses (see rejection for claim 17) a method and apparatus for translating speech and caption into a second language. Alshawi also describes an embodiment where the textual signal is translated into a target language that is then overlaid onto the video signal as real-time subtitles [caption] (Col 3, 46).

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alshawi (U.S. Patent 5815196) in view of Kirkland et al. (U.S. Patent 5900908).

Regarding claim 16, Alshawi discloses an integrated method and apparatus for providing real-time subtitles [captioning] in an AV signal. The disclosure includes

the automatic conversion of an audio [including speech] signal in the AV signal to text [caption] data and associating the audio and text [caption] data at a time that corresponds to the video signal. Alshawi describes in Fig 1., a video-based communications device (5,8). The device provides segmentation of an AV signal (16) and the further processing of the audio [speech] portion of the signal to provide continuous speech-to-subtitles [speech-to-text] translation (19,21,22) that has the ability to overlay and display text subtitles onto AV signal in real-time [captioning](26). Alshawi does not show portability and the utilization of the device in the classroom. However, Kirkland teaches a method of providing encoding caption data into the program signal. The apparatus receives a television signal with various description data including caption data (Col 9, 15). The device itself is a set-top box that can be co-located with a television [portable] and which can be used for live performances, classrooms and other types of presentations (Col 3,29 and Col10, 60). Devices with such features help the handicap or physically impaired by providing text or audio services.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Alshawi by making it portable for use in such venues as a classroom taught by Kirkland in order to improve on the capability of the captioning system for use in the classroom.

Art Unit: 2655

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alshawi (U.S. Patent 5815196) in view of Kazeroonian et al. (International Application Number: PCT/US99/03028) and further in view of Bozdagi et al. (U.S. Patent 6647535).

Regarding claims 19, the modified Alshawi (see rejection to claim 17) discloses the use of a closed captioning system using a computer recordable stored medium. The modified Alshawi (see rejection to claim 3) also shows the obviousness of using caption data amount and time as a means of associating text data to AV signal.

Conclusion

12. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872 9314,

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA., Sixth Floor (Receptionist).

Art Unit: 2655

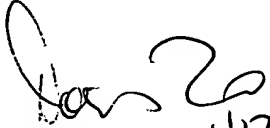
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Lewis, telephone number (703)305-8730.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached at (703)305-4827. The facsimile phone number for this group is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

mal

10/9/2003


DORIS H. TO 11/17/03
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600